

## PhD Course in Exercise as Medicine

October 27th-30th, 2014

Centre for Physical Activity Research (CFAS), Rigshospitalet

This PhD course will introduce the students to the concept “Exercise as Medicine”. Evidence will be presented for prescribing exercise therapy in the treatment of metabolic syndrome-related disorders (e.g. insulin resistance, type 2 diabetes, dyslipidemia, hypertension, obesity), heart and pulmonary diseases, inflammatory rheumatic diseases, cancer and cognitive impairment.

The PhD course will consist of two integrated parts: the PhD course sessions (Oct 27th – 29th) and a symposium on “Exercise as Medicine” (Oct 30th).

The course teachers are renowned international and Danish researchers who will participate in all or most of the course sessions, thus creating an inspiring environment for discussions and interaction with the students. Sessions will focus on the scientific basis for implementing exercise in the treatment of various chronic diseases, the potential mechanisms of actions, the important things to consider when designing exercise studies in diseased populations, the principles behind motivation for and prescription of exercise therapy and methods for evaluating key variables related to exercise interventions in patients with chronic diseases. Students will have the opportunity to discuss their own scientific projects with the course teachers. By hands-on teaching, students will become acquainted with state-of-the-art methods to monitor physiological and metabolic training adaptation as well as physical activity level.

During the symposium course teachers will present the latest research within the areas covered in the course.

**Pre-course preparation:** 2-3 overview articles related to each lecture will be made available to the students 3 weeks prior to the course

**Organizers:** Bente Klarlund Pedersen, Kristian Karstoft, Henning Langberg

## Monday October 27<sup>th</sup>

12.00 – 12.15	Student registration and sandwiches
12.15 – 12.45	Kristian Karstoft: Welcome and introduction
12.45 – 13.30	Bente Klarlund Pedersen: Exercise is Medicine – an overview
13.30 – 14.15	Henning Langberg: Motivation to move – use of technology
14.15 – 14.45	Panel discussion
<i>14.45 – 15.00</i>	<i>Coffee</i>
15.00 – 15.30	Morten Zacho: Training programs – design, implementation and monitoring
15.30 – 16.00	Mathias Ried-Larsen: Monitoring physical activity – principles and pitfalls
16.00 – 16.45	Morten Zacho et al: Hands-on teaching in three groups 1) physiology 2) metabolism 3) tracking physical activity

Tuesday October 28<sup>th</sup>

09.00 – 09.30	Kristian Karstoft: Exercise and glycemic control
09.30 – 10.15	Helga Ellingsgaard: Exercise and insulin secretion/beta-cell function
10.15 – 10.30	<i>Coffee</i>
10.30 – 11.15	NN: Exercise and training studies in elderly people
11.15 – 11.45	Panel discussion
11.45 – 12.45	<i>Lunch</i>
12.45 – 13.30	Fredrik Karpe: Metabolic substrate flux and utilization during exercise
13.30 – 14.15	Henriette Pilegaard: Animal models in exercise and training studies
14.15 – 14.30	<i>Coffee</i>
14.30 – 15.15	Georg Kuhn: Exercise and cognitive function
15.15 – 15.45	Panel discussion
15.45 – 16.30	Morten Zacho et al: Hands-on teaching in three groups 1) physiology 2) metabolism 3) tracking physical activity
17.00 – 21.00	<i>Get-together for teachers and students</i>

## Wednesday October 29<sup>th</sup>

09.00 – 09.30	Pernille Højman: Exercise and cancer
09.30 – 10.00	Fabiana Benatti: Exercise and inflammatory rheumatic diseases
10.00 – 10.30	Peter Lange: Exercise and COPD
10.30 – 10.45	<i>Coffee</i>
10.45 – 11.30	Eva Prescott: Exercise and cardiovascular disease
11.30 – 12.00	Panel discussion
12.00 – 13.00	<i>Lunch</i>
13.00 – 14.00	Discussion of the students' own projects in groups
14.00 – 14.45	Michael Joyner: Exercise and blood pressure regulation
14.45 – 15.30	Mark Febbraio: Exercise and insulin sensitivity
15.30 – 15.45	<i>Coffee</i>
15.45 – 16.30	Morten Zacho et al: Hands-on teaching in three groups 1) physiology 2) metabolism 3) tracking physical activity
16.30 – 17.00	PhD Course Closure
19.00 -	<i>Speakers' dinner</i>

Thursday October 30<sup>th</sup>

## Symposium on Exercise as Medicine

Venue: The Lundbeck Auditorium, The Biocenter, University of Copenhagen

*In this symposium, evidence will be presented for prescribing exercise therapy in the treatment of a number of chronic diseases including type 2 diabetes, cardiovascular and pulmonary diseases, cancer, and cognitive impairment. The speakers will present their latest research related to the topic: "Exercise as Medicine".*

### Program

08.30 – 08.50.	Registration and coffee
08.50 – 09.00	Bente Klarlund Pedersen: <i>Introduction</i>
09.00 – 09.45	Fredrik Karpe: <i>"Metabolically healthy obesity – is there such a thing?"</i>
09.45 – 10.30	Michael Joyner: <i>"What to do about physical inactivity"</i>
10.30 – 11.00	<i>Coffee</i>
11.00 – 11.30	Eva Prescott: <i>"Physical training and heart failure"</i>
11.30 – 11.50	Pemille Højman: <i>"Exercise controls tumor growth; insight from animal studies"</i>
11.50 – 12.10	Peter Lange: <i>"Exercise and lung disease"</i>
12.10 – 12.55	<i>Lunch</i>
12.55 – 13.15	Rikke Krogh-Madsen: <i>'Inactivity - influence on body composition and metabolism'</i>
13.15 – 13.45	Georg Kuhn: <i>Title to be announced</i>
13.45 – 14.15	Kristian Karstoft: <i>"InterWalk - a CFAS project"</i>
14.15 – 14.45	<i>Coffee</i>
14.45 – 15.15	NN: <i>Title to be announced</i>
15.15 – 15.45	Henning Langberg: <i>"Motivation - the key component in successful rehabilitation?"</i>
15.45 – 16.15	Mark Febbraio: <i>"Uncovering the myokinome using the SILAC mouse: implications for the development of novel therapeutic targets to treat metabolic disease"</i>
16.15 – 16.30	Symposium closure
16.30 – 18.00	<i>Networking, snacks and drinks</i>